Exhibit U (FILED UNDER SEAL)

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

SIMO HOLDINGS INC.,	:	
Plaintiff,	:	No. 1:18-cv-05427 (JSR)
-against-	:	
HONG KONG UCLOUDLINK NETWORK TECHNOLOGY LIMITED and UCLOUDLINK (AMERICA), LTD.,	:	
Defendants.	:	

**DECLARATION OF MARTIN J. FEUERSTEIN, Ph.D.
IN SUPPORT OF DEFENDANTS' OPPOSITION TO
PLAINTIFF'S MOTION FOR SUMMARY JUDGMENT**

I, Martin J. Feuerstein, declare and state as follows:

I. INTRODUCTION

1. I have been retained as a technical expert by Morgan, Lewis & Bockius LLP on behalf of Defendants Hong Kong uCloudlink Network Technology Limited and UCloudlink (America), Ltd. (collectively, "uCloudlink" or "Defendants") to provide my opinions regarding alleged infringement of asserted claims 8 and 11-14 (the "Asserted Claims") of U.S. Patent No. 9,736,689 ("the '689 patent" or "Asserted Patent") of SIMO Holdings Inc. ("SIMO" or "Plaintiff").

2. Specifically, I was asked to analyze the '689 patent and with respect to purported infringement by uCloudlink's GlocalMe G2, G3, and U2 Series WiFi hotspot devices and S1 mobile phones (collectively, "the Accused Products") and opinions of Dr. Clark and Mr. Welch. I submitted a rebuttal expert report on February 1, 2019, outlining my opinions and the bases for those opinions. I also submitted an opening expert report on January 14, 2019 outlining my opinions regarding the validity of the Asserted Claims. The opinions in my opening report are not the subject of this declaration. The statements in this declaration are consistent with the opinions I expressed in my rebuttal report, and in much of the declaration, I have included the text of my rebuttal report verbatim or with nonsubstantive modifications except some of the citations to evidence have been removed, particularly where the statement does not appear to be in contention. When a section of this declaration corresponds to a section of my rebuttal report, I have attempted to indicate that correspondence in a footnote.

3. If called upon, I can and will testify based upon my study of the cited materials, as well as my own factual knowledge, including my personal knowledge and experience.

4. My compensation rate for this case is $600.00 per hour, plus reimbursement for any reasonably incurred expenses associated with my work and testimony in this case. I have no financial interest in the outcome of this litigation or the specifics of my testimony.

II. QUALIFICATIONS[1]

5. My qualifications to testify about the Asserted Patent and relevant technology are set forth in my curriculum vitae ("CV"), which is attached hereto as Appendix A. My CV includes my educational background and professional background relating to mobile telecommunication systems, networks, devices, and related technologies.

6. Briefly, I have over thirty years of experience with electrical engineering in industry, education, and consulting, involved significant studies and first-hand experience in mobile telecommunication systems, networks, and devices. I have served as an expert witness in patent infringement and validity lawsuits for domestic and international clients, as well as patent acquisition and licensing matters.

7. I am chief technology officer of Motherson-Ossia, leading implementation of wireless technologies for mobility industry applications, including wireless power, sensors and Internet of Things products. I am also a principal of Jade Martin Consulting, focusing on wireless technology, smart antennas, Internet of Things, data analytics, safety and security systems.

8. I received a Bachelor of Engineering degree from Vanderbilt University, in Electrical Engineering and Mathematics, in 1984 with Magna Cum Laude.

9. Following my undergraduate studies, I attended Northwestern University, where I earned a Master of Science degree in Electrical Engineering with a Thesis in the area of electromagnetics and antennas in 1987.

10. I received a Doctorate degree from Virginia Tech, in Electrical Engineering with a Dissertation in the area of wireless communications and location in 1990.

[1] The paragraphs in this section correspond to paragraphs 5-16 of my rebuttal expert report.

11. I worked as an Assistant Professor in the Electrical and Computer Engineering Department with the Mobile/Portable Radio Research Group at Virginia Tech during 1991-1992. I served as Principal Investigator on funded research projects in wireless technology, taught wireless communications courses, and developed wireless course curriculum.

12. I served as a chief technology officer or other management roles working on mobile telecommunication systems, networks, and products at telecommunication companies such as Verizon/USWest/Airtouch during 1992-1995, Lucent/AT&T Bell Labs during 1995-1997, Metawave Communications Corporation during 1997-2003, Polaris Wireless during 2003-2011 and Recon Dynamics during 2011-2016. I also have significant consulting experience in the field, including for engagement clients such as T-Mobile, Verizon, Ericsson and Motorola.

13. I am an inventor to 31 issued U.S. patents and 15 pending U.S. patent applications. Many of the patents and patent applications are related to mobile telecommunication technologies.

14. I coauthored several books and articles on mobile wireless communications, such as: "Wireless Personal Communications," with Prof. T. Rappaport, Kluwer Academic Publishers; "High Speed Packet Access (HSPA) Performance and Evolution: A Practical Perspective", John Wiley & Sons Ltd.; "Wireless Network Deployments," Chapter 3, Springer International; "Wireless Communications: Emerging Technologies for Enhanced Communications," Chapter 5, Springer International; "Performance Evaluation of a Base Station Multibeam Antenna," IEEE Transactions on Vehicular Technology; "Path Loss, Delay Spread and Outage Models for Microcellular System Design," IEEE Transactions on Vehicular Technology.

15. Also, I have been invited to present at numerous technical conferences in the

mobile telecommunication field, such as International Symposium on Advanced Radio Technologies, CDMA Americas Congress, IEEE International Conference on Communications, International Wireless Communications Expo, etc.

16. Based on my technical experience in the field of wireless communications, including that summarized above and described in greater detail in my curriculum vitae, I consider myself to be an expert in the field of mobile telecommunication systems, networks, and devices.

III. THE ACCUSED PRODUCTS[2]

17. I provide my understanding below regarding uCloudlink's GlocalMe G2, G3, and U2 Series WiFi hotspot devices and S1 mobile phones, on which Dr. Clark opined regarding purported infringement.

A. G2/G3/U2 Work Flow/Operation Model for Regular Users

[redacted]

[2] The paragraphs in this section correspond to paragraphs 62-68, 71, 74, 78-83 of my rebuttal expert report.

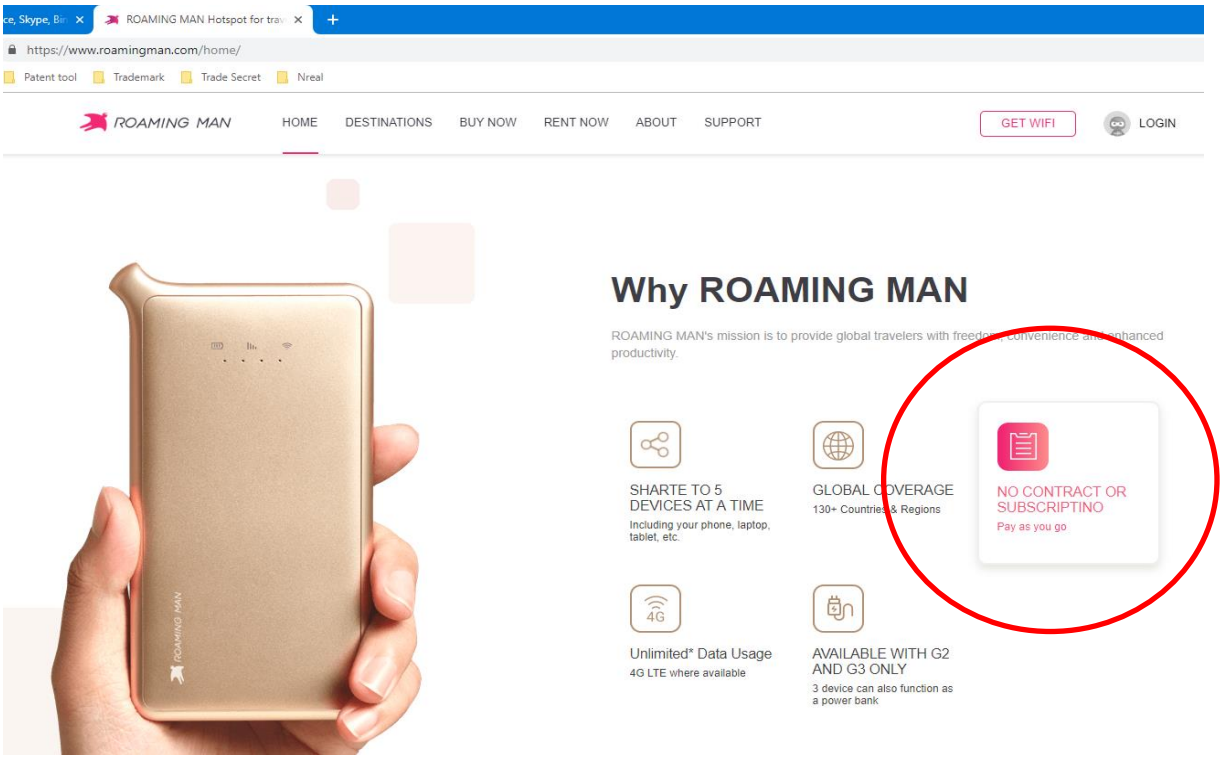
[redacted]

[redacted]

[redacted]

B. G2/G3/U2 Work Flow/Operation Model for Rental and Contract Users

24. The GlocalMe devices for rental are branded as "ROAMING MAN." Also, there are GlocalMe devices for contract users. The rental and contract GlocalMe devices work in a way different from the devices for regular users. For example, one of the features distinguishing the rental and contract GlocalMe devices from the regular GlocalMe devices is that no registration nor login steps are necessary at any stage of using the rental or contract GlocalMe devices. Instead, a user simply turns on a rental or contract GlocalMe device to provide a Wi-Fi hotspot service without further configuration on the GlocalMe device. And then *other* client device(s) (such as laptops, tablets or smartphones) can use the Wi-Fi hotspot service. Specifically, *on other client device(s)*, the user can select the name of the Wi-Fi hotspot and enters a *Wi-Fi* password to connect to the rental or contract GlocalMe device. Ex. 41 (ROAMING MAN Website - homepage) available at https://www.ROAMING MAN.com/# (reproduced below); *also see* Ex. 42 (ROAMING MAN Website - Support) available at https://www.ROAMING MAN.com/support ("Do I have to configure anything before connecting my device to ROAMING MAN? No configuration is necessary.").



Ex. 41 (Starting Bates No. UCLOUDLINK0385482 - ROAMING MAN Website - homepage) available at https://www.ROAMING MAN.com/#.

C. S1 Work Flow/Operation Model

25. Below I will walk through how international data roaming function of the S1 device works step by step.

[redacted]

[redacted]

[redacted]

IV. NONINFRINGEMENT OF THE '689 PATENT

A. The Accused Devices Do Not Include the Limitation "relaying the local authentication information request to the remote administration system" [3]

31. The claim language and specification of the '689 patent does not define the meaning of the term "relay." As I understand, a plain and ordinary meaning of the term "relaying" is receiving and passing on information or a message. This interpretation is consistent with a dictionary meaning. *See* Oxford Dictionaries (available at https://en.oxforddictionaries.com/definition/relay) ("Receive and pass on (information or a message)") (reproduced below):

relay

VERB

[WITH OBJECT]

1 Receive and pass on (information or a message)
'she intended to relay everything she had learned'
+ More example sentences + Synonyms

1.1 Broadcast (something) by passing signals received from elsewhere through a transmitting station.
'the speech was relayed live from the palace'

Accordingly, to show the Accused Products meet the above-recited limitation of claim 8, Dr. Clark needs to provide evidence that the Accused Products receive the local authentication information request and passes it onto the remote administration system. Dr. Clark failed to do so.

32. Dr. Clark admitted [redacted]

[3] The paragraphs in this section correspond to paragraphs 200-205 (G2), 300-305 (G3), 400-405 (U2), and 494-500 (S1), of my rebuttal expert report.

[redacted]

33. The G2/G3/U2 devices [redacted]

34. Dr. Clark relied on Welch Report [redacted]

[redacted]

35. In addition, Dr. Clark asserted [redacted]

36. Therefore, Dr. Clark and Mr. Welch failed to prove that the Accused Products "relay[] the local authentication information request to the remote administration system via the data communication link" of claim 8, because [redacted]

B. The Accused Devices Do Not Include the Limitation "obtaining suitable local authentication information" [4]

37. Dr. Clark asserted [redacted] Ex. 03 (Clark Report) at ¶¶ 199 (G2); 338 (G3), 477 (U2), 595 (S1) (emphasis added). Further, he explained that [redacted]. *Id.* I disagree with this argument.

38. First, [redacted] Ex. 43 (3GPP TS 22.101 version 8.13.0 Release 8) at 28-29.

39. Even Dr. Clark admitted that [redacted]

[4] The paragraphs in this section correspond to paragraphs 206-214 (G2), 306-314 (G3), 406-414 (U2), and 501-509 (S1), of my rebuttal expert report.

40. Second, the '689 patent specification describes that the term "obtaining suitable local authentication information" of claim 8 is directed to obtaining local authentication information from the local wireless account that is most suitable and available among multiple accounts each associated with a SIM card. *See* Ex. 01 ('689 patent) at 17:67-18:14; *see also id.* at 21:5-29 and 10:61-64. The specification of the '689 patent provides the following description of "obtaining **suitable** local authentication information from the remote administration system" of claim 8:

> If the subscriber (or wireless communication client) is verified, the authentication server 118 of the administration system 116 obtains **suitable** local authentication information from the authentication bank 126, at 810. The management module 216 (FIG. 2A) on the authentication server 118 (FIG. 1) **determines local wireless account that is most suitable and available** and then obtains the authentication information for that account from the authentication bank 126. For example, if the subscriber is calling during the day in London, the system determines **from multiple accounts** that a particular VODAPHONE® account is not being used and offers the **best rate** for the location and time of day, and obtains the authentication information for that VODAPHONE® account from **the SIM card associated with that account**.

See Ex. 01 ('689 patent) at 17:67-18:14 (emphases added); *see also id.* at 19:25-47; *id*. at 21:5-29 ("If the subscriber (or wireless communication extension unit) is verified, the authentication server 119 of the administration system 116 obtains suitable local authentication information

from the authentication bank 126, at 1010. In particular, the management module 216 (FIG. 2A)

on the authentication server 119 (FIG. 1) **determines which local wireless account is most suitable and then obtains the authentication information for that account** from the authentication bank 126.").

41. Based on the above specification disclosure, the term "obtaining **suitable** local authentication information" of claim 8 is directed to obtaining local authentication information from the local wireless account that is most suitable and available among multiple accounts each associated with a SIM card. *Id.* at 17:67-18:14. Examples of being the most suitable and available account include an account that is not being used and offers the best rate for the location and time of day. *Id.* Therefore, "obtaining **suitable** local authentication information" necessarily involves determining which local wireless account that is most suitable first and then obtaining the authentication information for that account associated with a SIM card. *Id.; see also id.* at 21:5-29. And a PHOSITA would have understood that the specification of the '689 patent describes the term "suitable" based on a selection of the most suitable local wireless account among multiple currently available local wireless accounts, each of which is "associated [with a] SIM card." *Id.* at 10:61-64. Hence, the selection among multiple local wireless accounts is necessarily directed to selection of the most suitable SIM card among multiple available SIM cards.

42. [redacted]

[redacted] *See* Ex. 09 (Zeng Dep.) 135:13-137:13, 134:9-19, and 203:5-14; *see also* Ex. 43 (Starting Bates Nos. UCLOUDLINK0385486 – 3GPP TS 22.101 version 8.13.0 Release 8) at 28-29.

43. [redacted]

45. Thus, Dr. Clark failed to prove that the Accused Products meet this limitation of claim 8.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct and that this declaration was executed this 19th day of March, 2019, at Woodinville, WA.

Martin J. Feuerstein, Ph.D.

Appendix A

Curriculum Vitae of Martin J. Feuerstein

EDUCATION

Ph.D., E.E., Dissertation: Wireless Communications and Location, Virginia Tech, 1990
M.S., E.E., Thesis: Electromagnetics and Antennas, Northwestern University, 1987
B.E., E.E. and Mathematics, Magna Cum Laude, Vanderbilt University, 1984

PROFESSIONAL EXPERIENCE

JADE MARTIN CONSULTING, PRINCIPAL 2003-present

▪ Advisor to established and startup companies on technology, strategy, business development, marketing, product development, intellectual property, venture capital and private equity fund raising
▪ Technical consultant and expert witness in patent infringement and validity lawsuits for domestic and international clients, as well as patent acquisition and licensing
▪ Focus on wireless technology, smart antennas, Internet of Things, data analytics, safety and security systems
▪ Engagement clients include: Ericsson, General Electric, Nortel, Motorola, Philips, T-Mobile, Verizon, IBM, NextWave, TenXc Wireless, Intellectual Ventures, Oak Investments, Perkins Coie and other law firms

MOTHERSON-OSSIA, CHIEF TECHNOLOGY OFFICER 2018-present

▪ Lead implementation of Cota wireless technologies for mobility industry applications, including wireless power, sensors and Internet of Things products
▪ Responsible for integration for joint venture between Motherson, Tier 1 automotive supplier, and Ossia, wireless power startup company

RECON DYNAMICS, CHIEF EXECUTIVE OFFICER & CHIEF TECHNOLOGY OFFICER 2011–2016

▪ Headed company for lead investor Eagle River Investments (cellular telephone pioneer, Craig O. McCaw)
▪ Guided all aspects of the company's operations in wireless asset management capitalizing on M2M, IoT, cloud and analytics big data
▪ Raised private equity venture capital and funded R&D to create new product line from scratch
▪ Established Cooperative Research and Development Agreement (CRADA) with Battelle's Pacific Northwest National Laboratory (PNNL) to develop sensor fusion location technologies for government security and force protection
▪ Company designed, manufactured and commercialized an award-winning wireless asset management and safety product line which was successfully marketed into the energy industry
▪ Company was acquired by joint venture partner in July 2016

POLARIS WIRELESS, CHIEF TECHNOLOGY OFFICER 2003–2011

▪ Led research and development of wireless position location products for E–911, security/surveillance, location–based services and network optimization, including responsibility for hiring and managing high caliber R&D team through rapid growth phase

▪ Commercialized products for GSM, TDMA and UMTS to meet strict FCC accuracy limits. Created LTE system, as well as new products for network optimization and mass location for security/surveillance market. Prototyped & demonstrated for operators and government customers.

▪ Enabled successful commercial product sales driving company to reach profitability since 2004, grow revenue, expand customer base internationally and expand into new product lines (security, surveillance, optimization)

▪ Interacted directly with wireless carriers' technical organizations at AT&T, Verizon, Sprint, Docomo, Vodafone, Rogers, Telus and Bell Mobility including technical evaluations and RFP/RFI responses

▪ Established and guided joint R&D collaboration with leading Japanese wireless service provider in UMTS and LTE hybrid location methods to achieve best-in-class accuracy and time-to-fix resulting in joint IPR

▪ Drove technology partnerships, architectures and product interfaces with Alcatel Lucent, Motorola, Thales Alenia Space, Commprove, TCS, Actix, Andrew/CommScope, Verint and other joint bid partners

▪ Directed standardization initiatives in 3GPP RAN/SA/CT/GERAN, OMA LOC, ESIF, CSRIC and other industry organizations, including standardizing Polaris's RF Pattern Matching (RFPM) technology in 3GPP

▪ Managed intellectual property portfolio with ~50 pending patents. Key inventor and hands-on contributor.

▪ Authored FCC public comment filings for regulatory proceedings, managed relationships with regulatory agencies associated with E-911 and U.S. government agencies for surveillance/security applications

▪ Fostered and grew funded research collaboration projects with Stanford University, UC Berkeley, MIT, Georgia Tech and other leading university research labs to extend R&D capabilities

METAWAVE COMMUNICATIONS CORPORATION 1997 - 2003

Chief Technology Officer	2002-2003
Senior V.P. & General Manager, Embedded & Data Products	2000-2002
Vice President, Product Development	1998-2000
Director, Advanced Technology	1997-1998

▪ Main inventor and champion of the company's flagship SpotLight CDMA product, convinced Board of Directors to back the proposal, developed and deployed the product under tight budget and schedule constraints, worked closely with customers driving sales to Verizon, Alltel, Iusacell. Built interfaces to multiple Lucent, Nortel, Motorola base stations. Evangelized within the wireless industry driving adoption of this new adaptive sectorization technology for traffic load balancing.

▪ Product ramped to over 92% of revenue in 2 quarters after launch, enabling highly successful IPO.

▪ Grew the company from small startup stage into publicly traded industry leader.

▪ Recommended acquisition of Adaptive Telecom Inc. (ATI) to accelerate next generation technology and grow market share. Acquired ATI, proposed and implemented new business structure, and became General Manager for multi-site business unit with P&L responsibility. Worked closely with CEO and Board of Directors to set strategic direction. Led joint development with Samsung to embed adaptive array into base stations, concluded with $1M+ licensing and royalty agreement.

▪ Directed engineering (systems, hardware, software, systems, mechanical, test and certification), product management and research departments. Determined program content, milestones, schedules and inspired team to completion. Developed commercial products for cdmaOne/CDMA2000 and GSM/GPRS/EDGE.
▪ Conceived and patented designs for antenna sharing with independent sector pattern control. Conceptual idea later evolved into a new product line targeted at a diverse customer segment, cellular tower owners.

LUCENT/AT&T BELL LABS, TECHNICAL MANAGER, CDMA OPTIMIZATION & APPLICATIONS 1995-1997
▪ Led successful development rollout of Lucent's flagship CDMA product. Identified and fixed flaws in call processing algorithms in the network equipment to make the product commercially viable. Convinced customers of product capabilities and value, enabling national network deployments with Sprint, Primeco, GTE, AirTouch, Ameritech, Bell Atlantic, Centennial. As a result, Lucent captured and maintained 65% share of the cdmaOne/cdma2000 market.
▪ Resolved critical performance issues with key customers to launch networks and build revenues, several examples are:
▪ Due to acceptance test failure at Sprint, performed comprehensive analyses and proposed power control algorithm improvements for reverse link capacity shortfall. Resolution led directly to completion of major contract milestone.
▪ Commercial launch of Primeco/Verizon network was halted due to radio performance failures. Proposed and conclusively proved solutions improving performance. Convinced Primeco's senior management to proceed with network rollout.
▪ Major GTE markets experienced acute problems with call reliability. Spent months in these markets optimizing performance and building customer confidence.
▪ Implemented dramatic, market-proven improvements to handoff and power control algorithms. Headed task force created to resolve critical system requirements and performance problems.
▪ Guided radio performance optimization and network applications. Resolved technical bottlenecks, created deployment guidelines and tools, enabled CDMA to be rapidly deployed in widespread rollouts as a highly competitive wireless technology.

VERIZON/USWEST/AIRTOUCH, SENIOR MEMBER TECHNICAL STAFF 1992-1995
▪ Simulated performance of the world's first CDMA cellular trials and deployments. Contributed to IS-95 standards through TIA/TR45.5 committee and CDMA Development Group. Wrote C/C++ software for performance prediction.
▪ Guided company's strategies on digital wireless technologies for rollout at cellular and PCS bands. Led joint industry test bed for comparative evaluation of air interfaces. Evaluated new network architectures, air interfaces, access methods.
▪ Key inventor of patented position location system for position location, zone-based billing and E-911. Created robust statistical estimation algorithm to predict position in severe multipath. Simulated digital control loop for synchronization of base stations.

VIRGINIA TECH, ASSISTANT PROFESSOR, MOBILE/PORTABLE RADIO RESEARCH GROUP 1991-1992
▪ Principal Investigator on funded research projects in wireless. Supervised 3 M.S. student theses.

▪ Created and published widely-referenced RF propagation models for microcellular design. Proposed frequency hopping band-sharing techniques to mitigate interference problems with European LEO satellite.
▪ Designed and built wireless spread spectrum systems for wideband channel sounding and high-resolution position estimation. Constructed hardware for both direct sequence and frequency hopping techniques.
▪ Taught wireless communications networks courses, developed curriculum, received teaching excellence rating.

NORTEL, SYSTEMS ENGINEER, ADVANCED COMMUNICATIONS TERMINALS 1984-1985
▪ Wrote node control LAN software for robotic automated test and repair facility
▪ Trialed knowledge-based expert system for computer aided repair of printed circuit boards, developed in academic collaboration with Vanderbilt University

PATENTS

1. 9,959,458 Surveillance system
2. 9,776,847 Comprehensive Worksite and Transportation Safety System
3. 9,538,328 Estimating whether or not a wireless terminal is in a geographic zone using pattern classification
4. 9,432,631 Surveillance system
5. 9,398,402 Tracking large numbers of wireless terminals
6. 9,247,516 Estimating whether or not a wireless terminal is in a geographic zone using pattern classification
7. 8,583,141 Estimating the location of a wireless terminal based on signal path impairment
8. 8,571,577 Estimating the location of a wireless terminal based on signal path impairment
9. 8,565,786 Estimating the location of a wireless terminal based on signal path impairment
10. 8,320,933 Estimating whether or not a wireless terminal is in a zone using radio navigation
11. 8,155,394 Wireless location and facial/speaker recognition system
12. 8,068,802 Estimating the location of a wireless terminal based on calibrated signal-strength measurements
13. 7,899,467 Estimating the location of a wireless terminal based on the traits of the multipath components of a signal
14. 7,796,966 Estimating the location of a wireless terminal based on calibrated signal-strength measurements
15. 7,753,278 Estimating the location of a wireless terminal based on non-uniform locations
16. 7,734,298 Estimating the location of a wireless terminal based on signal path impairment
17. 6,950,416 Embedded digital beam forming
18. 6,937,863 System and method for dynamically adjusting cell sectorization
19. 6,829,491 Dynamic and self-optimizing smart network
20. 6,522,897 RF radiation pattern synthesis using existing linear amplifiers
21. 6,351,237 Polarization and angular diversity among antenna beams
22. 6,246,674 Antenna deployment sector cell shaping system and method
23. 6,181,276 Sector shaping transition system and method
24. 6,178,333 System and method providing delays for CDMA nulling
25. 6,141,565 Dynamic mobile parameter optimization

26. 6,118,767 Interference control for CDMA networks using a plurality of narrow antenna beams and an estimation of the number of users/remote signals present
27. 6,070,090 Input specific independent sector mapping
28. 6,055,230 Embedded digital beam switching
29. 6,005,516 Diversity among narrow antenna beams
30. 5,758,288 Signal time of arrival position determining method for calculating cellular telephone billing charges
31. 5,600,706 Method and system for determining the position of a mobile receiver

PATENTS PENDING

1. 20130072230 Tracking Large Numbers of Wireless Terminals
2. 20120289249 Estimating the Location of a Wireless Terminal Based on Signal Path Impairment
3. 20120282947 Estimating the Location of a Wireless Terminal Based on Signal Path Impairment
4. 20120249787 Surveillance System
5. 20120014567 Wireless Location and Facial/Speaker Recognition System
6. 20110298930 Integrated Wireless Location and Surveillance System
7. 20100329144 Estimating the Location of a Wireless Terminal Based on Calibrated Signal-Strength Measurements
8. 20100245115 Estimating the Location of a Wireless Terminal Based on Signal Path Impairment
9. 20090280829 Using A Priori Geographical Location Density Information To Improve Location Accuracy
10. 20080207222 Estimating Whether Or Not A Wireless Terminal Is In A Geographic Zone Using Pattern Classification
11. 20080207219 Estimating Whether Or Not A Wireless Terminal Is In A Zone Using Radio Navigation
12. 20060240846 Estimating the Location of a Wireless Terminal Based on Signal Path Impairment
1. 4
13. 20060240845 Estimating the Location of a Wireless Terminal Based on the Traits of the Multipath Components of a Signal
14. 20060240843 Estimating the Location of a Wireless Terminal Based on Non-Uniform Locations
15. 20060211376 Estimating the location of a wireless terminal based on calibrated signal-strength measurements
16. 20170107090 Comprehensive Worksite and Transportation Safety System

PUBLICATIONS

BOOKS AND BOOK CHAPTERS

▪ High Speed Packet Access (HSPA) Performance and Evolution: A Practical Perspective, John Wiley & Sons Ltd.
▪ Wireless Personal Communications, with Prof. T. Rappaport, Kluwer Academic Publishers
▪ Wireless Network Deployments, Chapter 3, Springer International
▪ Wireless Communications: Emerging Technologies for Enhanced Communications, Chapter 5, Springer International

TECHNICAL JOURNAL ARTICLES

- Performance Evaluation of a Base Station Multibeam Antenna, IEEE Transactions on Vehicular Technology
- Path Loss, Delay Spread and Outage Models for Microcellular System Design, IEEE Transactions on Vehicular Technology
- Reflection Coefficients for Exterior Wall Surfaces in a Mobile Radio Environment, IEEE Transactions on Antennas & Propagation
- Distribution of Phase Errors in Wireless Position Location Systems, IEE Electronics Letters

TECHNICAL CONFERENCE PAPERS

- Gain Improvement of a Cellular Base Station Multibeam Antenna, IEEE Vehicular Technology Conference
- The Future of Smart Antennas: Evolution to 3G and IP Networks, IEEE Personal Indoor Mobile Radio Communications
- Applications of Smart Antennas in Cellular Networks, IEEE Antennas & Propagation Symposium
- Design and Test of CDMA Cellular Systems, IEEE Vehicular Technology Conference
- Performance of Decision Feedback Equalizers in Urban and Indoor, IEEE Vehicular Technology Conference
- Design & Performance of Minimum Variance Hybrid Algorithms, Institute of Navigation

TECHNICAL CONFERENCE PRESENTATIONS

- International Symposium on Advanced Radio Technologies (2004-2005)
- CDMA Americas Congress (1999-2002)
- CDMA Technology Conference (1999-2000)
- CDMA World Congress (1999-2001)
- IEEE International Conference on Communications (1998)
- ITS Advanced Radio Symposium (1998)
- PCS CDMA Technology Conference (1997-1999)
- Stanford University Smart Antenna Workshop (1998-1999)
- Virginia Tech Wireless Symposium (1998-1999)
- Personal Indoor Mobile Radio Conference (2000)
- CDMA Development Group (CDG) Digivent Webcast on Smart Antennas (2001)
- CDG Technology Forum (2002)
- Advanced CDMA Workshop (1998)
- IEEE International Conference on Third Generation Wireless and Beyond (2001)
- 3G Forum (2001)
- Stanford University Position Navigation and Time Symposium (2007)
- Worchester Polytechnic Institute 2nd Wireless Location Workshop (2010)
- University of Texas Wireless Networking and Computing Group Symposium (2004)
- CES Fourth Generation Mobile Forum (2009)
- International Wireless Communications Expo (2009)

MAGAZINE ARTICLES

- Smart Antennas Increase Capacity in CDMA Networks, Wireless Design Online
- Smart Antennas: The Freedom to Choose, Wireless Design Magazine
- Unraveling the Complex World of E911 Wireless Location, Mobile Radio Technology
- E911 Location and Call Processing, National Emergency Number Association Magazine
- Locating Wireless Calls with Enhanced 9-1-1: How Does It All Work, APCO Magazine

PUBLICATIONS AUTHORED OR COAUTHORED IN PREVIOUS 10 YEARS

- High Speed Packet Access (HSPA) Performance and Evolution: A Practical Perspective, P. Tapia, J. Liu, Y. Karimli, M. Feuerstein, John Wiley & Sons Ltd., 2009
- The Location Mashup: Melding Air Interfaces, Bands, Planes & Technologies, M. Feuerstein, Worcester Polytechnic Institute, 2nd Invitational Workshop on Opportunistic RF Localization for Next Generation Wireless Devices, June 14, 2010

CASES TESTIFIED BY DEPOSITION OR AT TRIAL IN PREVIOUS 4 YEARS

- Trial: Communications Components Antenna Inc. Versus CommScope Technologies LLC. & Ors., High Court of Delhi, C.S. (Comm.) 1072 of 2016 and counterclaim CS(OS) No. 2937 of 2011
- Trial: Andrew India Private Limited Versus Communication Components Antenna Inc., COUNTER-CLAIM OF THE COUNTER-CLAIMANT (ANDREW INDIA PRIVATE LIMITED) FOR REVOCATION OF INDIAN PATENT NO. 240893 DATED MARCH 19, 2007, High Court of Delhi